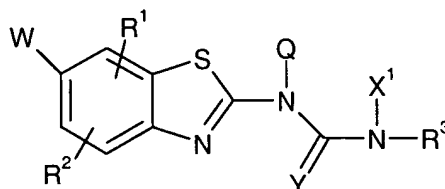


# **Listing of Claims:**

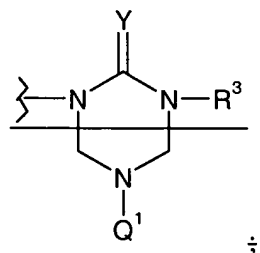
1. (Currently Amended) A compound of formula (I),



(I),

racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein,

Q is H or represents a bond which is taken together with X<sup>1</sup> and the two nitrogen atoms to which Q and X<sup>1</sup> are attached and the C=O group to which the two nitrogen atoms are attached to form

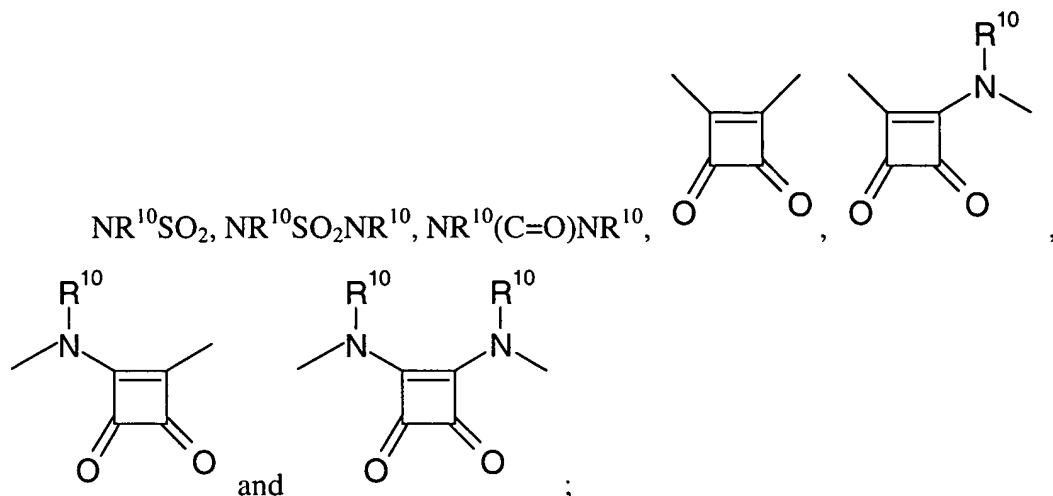


Q<sup>1</sup> is (C<sub>1</sub>-C<sub>6</sub>)alkyl;

Y is O or S;

W is H, Cl, Br, I, NO<sub>2</sub>, CN, SCN, OCF<sub>3</sub>, -X<sub>q</sub>-(C(R<sup>10</sup>)<sub>2</sub>)<sub>a</sub>-Y<sup>1</sup><sub>q</sub>-(C(R<sup>10</sup>)<sub>2</sub>)<sub>a</sub>-Z<sup>1</sup><sub>q</sub>, or an optionally substituted group selected from the group consisting of alkyl, alkenyl, and alkynyl, ~~heterocyclyl-~~ alkenyl, and ~~heterocyclyl-~~ alkynyl;

Y<sup>1</sup> and X are each independently selected from the group consisting of phenyl, ~~heterocyclyl~~, NR<sup>10</sup>, O, S, SO, SO<sub>2</sub>, CF<sub>2</sub>, CFR, C=O, (C=O)NR<sup>10</sup>, SONR<sup>10</sup>, SO<sub>2</sub>NR<sup>10</sup>, NR<sup>10</sup>(C=O), NR<sup>10</sup>SO,



q for each occurrence is independently 0 or 1;

a for each occurrence is independently 0 or an integer from 1 to 5;

$\text{R}^{10}$  for each occurrence is independently selected from the group consisting of H, optionally substituted aryl, ~~optionally substituted heterocyclyl~~ and an optionally substituted alkyl group optionally substituted with one or more of the following: a  $\text{C}_{1-6}$  alkyl group optionally substituted by one or more hydroxy, halo or optionally substituted amino; a  $\text{C}_{1-6}$  alkoxy group optionally substituted by one or more hydroxy, halo or optionally substituted amino; hydroxy; halo; or optionally substituted amino;

$\text{Z}^1$  is H, optionally substituted alkyl, or optionally substituted aryl ~~or optionally substituted heterocyclyl~~;

$\text{X}^1$  is hydrogen, alkyl or hydroxyalkyl; ~~or represents a bond which is taken together with  $\text{R}^3$  as described below or represents a bond which is taken together with Q as described above;~~

$\text{R}^1$  and  $\text{R}^2$  are each independently hydrogen, halogen, hydroxy, nitro, cyano,  $\text{COOH}$ ,  $\text{COOX}^3$ ,  $\text{SX}^3$ ,  $\text{SO}_2\text{X}^3$ ,  $\text{SOX}^3$ ,  $\text{C}(\text{O})\text{X}^3$ ,  $\text{NHC}(\text{O})\text{X}^3$ ,  $\text{C}(\text{O})\text{NHX}^3$ ,  $\text{NHSO}_2\text{X}^3$  or selected from an optionally substituted group consisting of alkyl, alkenyl, alkynyl, alkoxy, amino,  $\text{NHX}^3$ ,  $\text{NX}^3\text{X}^3$ , alkylamino, arylamino, ~~heterocyclylamino~~, alkylthio, alkylsulfonato, aryl, aryloxy, arylalkyl, arylalkenyl, arylalkynyl, arylalkyloxy, ~~heterocyclyl~~, ~~heterocyclyloxy~~, ~~heterocyclyl alkyl~~, ~~heterocyclyl alkenyl~~, ~~heterocyclyl alkynyl~~, ~~heterocyclyl alkyloxy~~, ~~heterocyclylthio~~, ~~heterocyclylsulfinyl~~, ~~heterocyclylsulfonyl~~, cycloalkyl,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{CN}$ ,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{COOH}$ ,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{COOX}^3$ ,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{SO}_2\text{X}^3$ ,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{C}(\text{O})\text{X}^3$ ,  $-(\text{CH}_2)_m-(\text{CHX}^2)\text{C}(\text{O})\text{NHX}^3$  and

$-(CH_2)_m-(CHX^2)NHSO_2X^3$  provided that the alkylamino and arylamino are attached to the phenyl ring via the nitrogen of the amino group;

where m is 0 to 4;

$X^2$  for each occurrence is independently H or an optionally substituted moiety selected from the group consisting of alkyl, alkenyl, alkynyl, carbonyl,  $S(O)_p$ alkyl,  $S(O)_p$ aryl,  $S(O)_p$ heterocyclyl, amino, alkoxy, alkylthio, arylthio, perhaloalkyl, aryl, aryloxy, arylalkyl, and arylalkyloxy; heterocyclyl and heterocyclyl-alkyl;

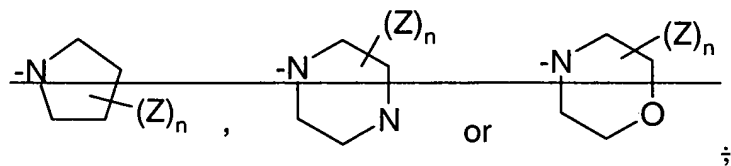
p is 0, 1 or 2;

$X^3$  for each occurrence is independently H or an optionally substituted moiety selected from the group consisting of mono- or di-alkylamino, alkyl, alkenyl, alkynyl, aryl; and arylalkyl; ~~heterocyclyl and heterocyclyl-alkyl;~~

~~or when  $R^1$  is in the 7 position of the benzothiazole ring,  $R^1$  and W can be taken together with the carbon atoms to which they are attached to form an optionally substituted 5 or 6 membered heterocyclyl ring;~~

$R^3$  is hydrogen, or an optionally substituted moiety selected from the group consisting of carbonyl, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, arylalkyl, ~~heterocyclyl, heterocyclyl-alkyl, heterocyclyl heterocyclyl, heterocyclyl cycloalkyl,~~ amino, alkylamino, arylamino, alkoxy, thioalkoxy and acyl;

~~or  $R^3$  and  $X^1$  are taken together with the nitrogen atom to which they are attached to form~~



~~where Z for each occurrence is independently selected from the group consisting of oxo, or an optionally substituted moiety selected from the group consisting of  $C(O)(C_4-C_6)$ alkyl,~~

~~$C(O)$ aryl,  $C(O)N(C_4-C_6)$ alkyl,  $C(O)N$  aryl,  $(C_4-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl, amino, mono or di  $(C_4-C_6)$ alkylamino,  $COO(C_4-C_6)$ alkyl, pyridyl, phenyl, phenyl  $(C_4-C_6)$ alkyl and phenyl  $(C_4-C_6)$ alkenyl;~~

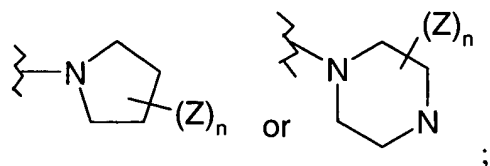
where each of the optionally substituted moieties described hereinabove is optionally substituted by one or more substituents each independently selected from the group consisting of oxo,

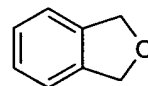
amino, nitro, mono- or bi-(C<sub>1</sub>-C<sub>6</sub>)alkylamino, hydroxy, nitrile, chloro, fluoro, bromo, iodo, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)alkyl, -C(O)(C<sub>1</sub>-C<sub>6</sub>)alkyl, -COOH, -COO(C<sub>1</sub>-C<sub>6</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -S-aryl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, -SO<sub>2</sub>NH<sub>2</sub>, phenyl, phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, -O-(C<sub>1</sub>-C<sub>6</sub>)alkyl-OH, -O-(C<sub>1</sub>-C<sub>6</sub>)alkyl-O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -O-(C<sub>2</sub>-C<sub>6</sub>)alkyl-N-((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>n</sub>, -N-(C<sub>1</sub>-C<sub>6</sub>)alkyl-OH, -N-(C<sub>1</sub>-C<sub>6</sub>)alkyl-O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, -C(O)NH<sub>2</sub>, -C(O)N((C<sub>1</sub>-C<sub>6</sub>)alkyl)<sub>n</sub>, -S(O)<sub>n</sub>(C<sub>1</sub>-C<sub>6</sub>)alkyl; and -S(O)<sub>n</sub>aryl -S(O)<sub>n</sub>heterocyclyl, ~~and heterocyclyl~~, where the alkyl groups mentioned herein optionally have one or more unsaturated bonds in the alkyl portion;

n is 0, 1 or 2;

provided that

- 1) when Q is H; Y is O; R<sup>1</sup> and R<sup>2</sup> are each hydrogen, halogen, alkyl, alkoxy, alkylthio, carboxyalkyl or optionally substituted phenyl; and X<sup>1</sup> is hydrogen or alkyl; then R<sup>3</sup> is not alkyl, alkenyl, alkoxy, cycloalkyl or optionally substituted phenyl;
- 2) when Q is H; Y is O; R<sup>1</sup> and R<sup>2</sup> are each hydrogen, halogen, alkyl, alkoxy, alkylthio, carboxyalkyl or optionally substituted phenyl; then X<sup>1</sup> and R<sup>3</sup> are not taken together to form



- 3) when W is Cl, Br or I; Q is hydrogen; Y is O; X<sup>1</sup> is H; then R<sup>3</sup> is not  or phenyl optionally substituted by 1 to 3 substituents independently selected from the group consisting of amino, mono- or bi-(C<sub>1</sub>-C<sub>6</sub>)alkylamino, hydroxy, chloro, fluoro, bromo, iodo, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy and -SO<sub>2</sub>NH<sub>2</sub>;

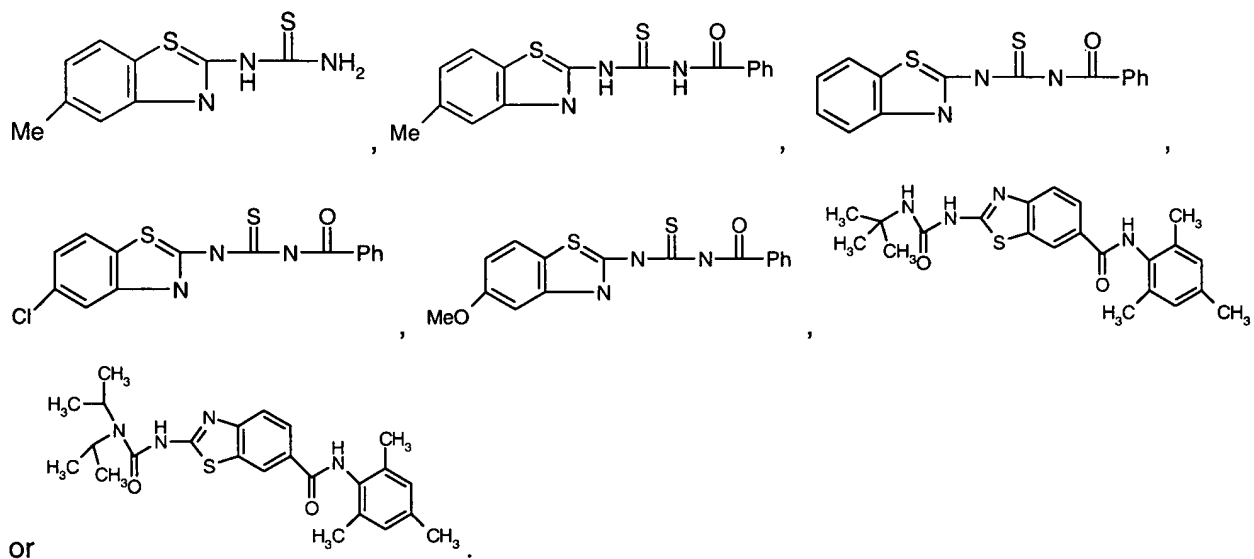
- 4) when W is Cl, Br or I; Q is H; R<sup>1</sup> is 7-Cl; R<sup>2</sup> is H; and X<sup>1</sup> is alkyl; then R<sup>3</sup> is not alkyl, alkoxy or cycloalkyl;

- 5) when W is Cl, Br or I; Q is H; R<sup>1</sup> is 7-Cl; R<sup>2</sup> is H; and X<sup>1</sup> is H; then R<sup>3</sup> is not alkyl or cycloalkylamino;

- 6) when W is Cl, Br, I or NO<sub>2</sub>; Q is H; Y is O; X<sup>1</sup> is H; R<sup>1</sup> is OH; R<sup>2</sup> is NO<sub>2</sub>, amino, alkyl, alkoxy, hydroxy lower alkyl or dialkylamino; then R<sup>3</sup> is not H or alkyl;

- 7) when W is Cl, Br or I; Q is H; Y is O; R<sup>1</sup> is CF<sub>3</sub>, CH<sub>2</sub>F, NO<sub>2</sub>, alkyl or alkoxy; R<sup>2</sup> is H; X<sup>1</sup> is H; then R<sup>3</sup> is not naphthyl or phenyl optionally substituted with halo, CF<sub>3</sub>, alkyl or alkoxy;

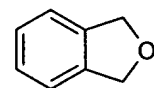
- 8) when W is Cl, Br or I; Q is H; R<sup>1</sup> is alkyl; R<sup>2</sup> is H; X<sup>1</sup> is H or alkyl; then R<sup>3</sup> is not alkyl or alkoxy;
- 9) when W is Cl; Q is H; Y is S; R<sup>1</sup> and R<sup>2</sup> are each H; X<sup>1</sup> is H; then R<sup>3</sup> is not ethyl;
- 10) when W is Cl; Q is H; Y is O; R<sup>1</sup> and R<sup>2</sup> are each H; X<sup>1</sup> is H; then R<sup>3</sup> is not n-butyl; and
- 11) when W is H, then R<sup>1</sup> and R<sup>2</sup> are not H at the same time.
- 12) the compound is not



or

2. (Currently Amended) A compound according to claim 1, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein the alkyl, alkenyl and alkynyl moieties, and the alkyl portion of a moiety is an optionally substituted straight or branched chain having one to eight carbon atoms;

the aryl moiety and the aryl portion of a moiety is an optionally substituted phenyl, or naphthyl;

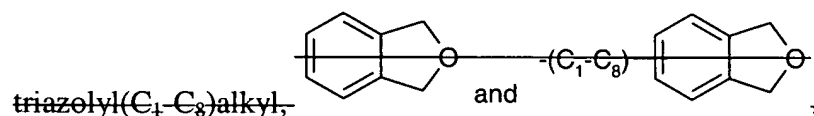


~~the heterocyclyl moiety and the heterocyclyl portion of a moiety are selected from the group consisting of an optionally substituted piperidinyl, pyridyl, pyrazinyl, pyrimidinyl, thienyl, pyrrolidinyl, piperazinyl, thiomorpholinyl, morpholinyl, 2,3,4,5-tetrahydrofuranyl, 1,3-dioxanyl, 1,4-dioxanyl, furanyl, and 1,2,4-triazolyl, tetrazolyl, imidazolyl, pyrazolyl, thiazolyl, oxazolyl, oxadiazolyl, thiadiazolyl, benzimidazolyl, 1,3-dioxolanyl, 2-imidazolinyl, imidazolidinyl, 2-~~

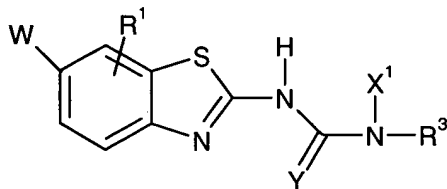
~~pyrazolinyl, pyrazolidinyl, isothiazolyl, 1,2,3 triazolyl, 2H pyranyl, 4H pyranyl, 1,4 dithianyl, 1,3,5 triazinyl, 1,3,5 trithianyl, indolyl, isoindolyl, 3H indolyl, indolinyl, purinyl, 4H quinoliziny, cinnolinyl, phthalazinyl, quinoliny, isoquinoliny, quinazoliny, quinoxaliny, 1,8 naphthpyridiny, pteridinyl, quinuclidiny, carbazolyl, acridiny, phenazinyl, phenothiaziny, phenoxazinyl, pyrrolyl, isoxazolyl, pyridazinyl, indazolyl, benzoxazolyl, benzofuranyl, benzothiazolyl, indoliziny, imidazopyridiny and benzothienyl.~~

3. (Currently Amended) A compound according to claim 2, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>3</sup> is an optionally substituted moiety selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, phenyl, phenyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, ~~thienyl, thienyl(C1-C8)alkyl, piperidinyl, piperidinyl(C1-C8)alkyl, pyrrolidinyl, pyrrolidinyl(C1-C8)alkyl, morpholinyl, morpholinyl(C1-C8)alkyl, 2,3,4,5-tetrahydrofuranyl, 2,3,4,5-tetrahydrofuranyl(C1-C8)alkyl, furanyl, furanyl(C1-C8)alkyl, cycloalkyl, and cycloalkyl(C<sub>1</sub>-C<sub>8</sub>)alkyl;~~ pyridyl, pyridyl(C<sub>1</sub>-C<sub>8</sub>)alkyl, 1,2,4-triazolyl, 1,2,4-



4. (Currently Amended) A compound of formula (IA),



(IA),

racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub> or CN;

Y is O or S;

R<sup>1</sup> is in the 7-position and is hydrogen, methyl, ethyl, allyl, phenyl, benzyl, -CH<sub>2</sub>-C(O)-CH<sub>3</sub>, -CH<sub>2</sub>-CO<sub>2</sub>-t-Bu, -CH<sub>2</sub>-SO<sub>2</sub>-aryl, -alkyl-CN, or -alkyl(CN)(CH<sub>2</sub>-aryl);

X<sup>1</sup> is hydrogen, alkyl or hydroxyalkyl;

R<sup>3</sup> is selected from the group consisting of ethyl, n-butyl, t-butyl, n-propyl, allyl, hydroxyalkyl, aminoalkyl, -alkyl-NH-alkyl-OH, -alkyl-O-alkyl-OH, di-hydroxyalkyl, alkoxyalkyl, (alkylthio)hydroxyalkyl, cycloalkyl, cycloalkylalkyl, hydroxycycloalkyl, (alkylthio)(alkylester)alkyl, alkylesteralkyl, 2,4-dimethoxyphenyl, 3,5-trifluoromethylphenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2-methylphenyl, 3-methylphenyl, (substituted phenyl)alkyl, phenylalkyl, heterocyclalkyl, N-alkylaminoalkyl, and N,N-dialkylaminoalkyl; ~~optionally substituted heterocycl, and optionally substituted heterocyclalkyl.~~

5. (Original) A compound according to claim 4, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein R<sup>1</sup> is hydrogen and X<sup>1</sup> is hydrogen.

6. (Original) A compound according to claim 4, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is hydrogen;

R<sup>1</sup> is in the 7-position and is hydrogen, methyl, ethyl or phenyl;

R<sup>2</sup> are each hydrogen;

X<sup>1</sup> is hydrogen; and

R<sup>3</sup> is selected from the group consisting of ethyl, n-Bu, *t*-Bu, n-Pr, allyl, cyclopropyl, cyclobutyl, 2,4-dimethoxyphenyl, 3,5-bis-trifluoromethylphenyl, 3-chlorophenyl, 4-chlorophenyl, 2,6-dichlorophenyl, 2-methylphenyl and 3-methylphenyl.

7. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

Q is H;

W is NO<sub>2</sub>;

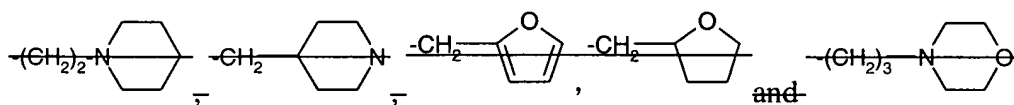
Y is S;

R<sup>1</sup> is in the 7-position and is hydrogen, -CH<sub>2</sub>-SO<sub>2</sub>-phenyl, -CH<sub>2</sub>-CN, -CH(CH<sub>3</sub>)(CN), or -CH(CN)(CH<sub>2</sub>-phenyl);

R<sup>2</sup> is hydrogen;

X<sup>1</sup> is hydrogen, methyl or  $-(CH_2)_2-OH$ ;

R<sup>3</sup> is selected from the group consisting of ethyl, benzyl, EtOH, n-PrOH, n-BuOH, n-pentanol, n-hexanol,  $-(CH_2)_2-NH-(CH_2)_2-OH$ ,  $-(CH_2)_2-O-(CH_2)_2-OH$ ,  $-CH(CH_2CH_3)(CH_2OH)$ ,  $-CH(CH_2OH)(CH_2-i-Pr)$ , 2,3-di-hydroxy-propyl, 2-hydroxypropyl,  $-CH(CH_3)(CH_2OH)$ ,  $-C(CH_3)_2(CH_2OH)$ ,  $-CH_2(CH_3)(CH_2OCH_3)$ , 1,3-dihydroxyisopropyl,  $-CH(CH_2OH)(CH_2CH_2SCH_3)$ , cyclopropyl, cyclopropylmethyl, 4-hydroxycyclohexyl, 3-chlorophenyl, 4-chlorophenyl, 2-methylphenyl, 3-methylphenyl, 4-aminobenzyl, (4-aminophenyl)ethyl,  $-(CH_2)_3-N(Et)_2$ , and  $-(CH_2)_2-N(Me)_2$ , ~~N-piperidinyl, 2,6-dimethylpiperidinyl,~~



8. (Currently Amended)

A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

Y is O;

R<sup>1</sup> is in the 7-position and is hydrogen,  $-CH_2-SO_2$ -phenyl,  $-CH_2-CN$ ,  $-CH(CH_3)(CN)$ , or  $-CH(CN)(CH_2$ -phenyl);

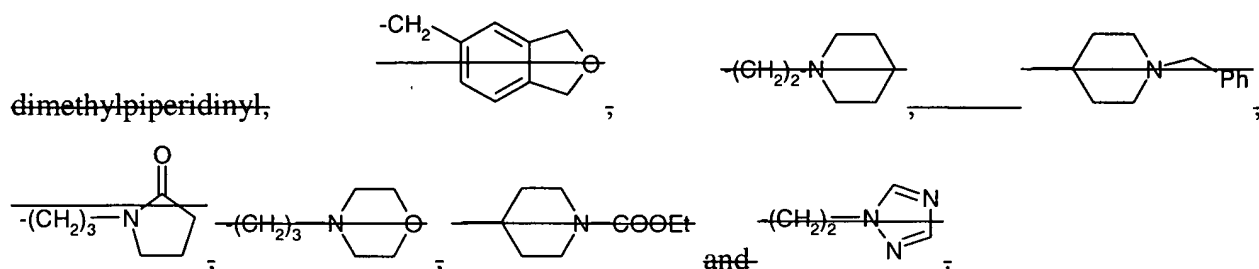
R<sup>2</sup> is hydrogen;

X<sup>1</sup> is hydrogen, methyl or  $-(CH_2)_2-OH$ ;

R<sup>3</sup> is selected from the group consisting of benzyl, EtOH, n-PrOH, *t*-BuOH, n-hexanol, aminoethyl, aminopropyl,  $-(CH_2)_2-NH-(CH_2)_2-OH$ ,  $-(CH_2)_2-O-(CH_2)_2-OH$ ,  $-CH(CH_2CH_3)(CH_2OH)$ ,  $-CH(CH_2OH)(CH_2-i-Pr)$ , 2,3-di-hydroxy-propyl, 2-hydroxypropyl,  $-CH(CH_3)(CH_2OH)$ , 1,3-dihydroxyisopropyl,  $-CH(CH_2OH)(CH_2CH_2SCH_3)$ , cyclobutyl, 4-hydroxycyclohexyl,  $-CH(COOEt)(CH_2)_2-SCH_3$ ,  $-(CH_2)_2-COOEt$ ,  $-(CH_2)_5-COOEt$ , (2-aminophenyl)methyl, 4-aminobenzyl, (4-aminophenyl)ethyl,  $-C(CH_3)_2$ (phenyl),  $-CH_2$ (2,4-difluorophenyl), ~~2-pyridylmethyl, 3-pyridylmethyl, 4-pyridylmethyl~~  $-(CH_2)_2$ -thien-2-yl,  $-CH(i-Pr)(COOEt)$ ,  $-CH(i-Pr)(CH_2OH)$ , 3-(N-methylamino)propyl,  $-(CH_2)_3-N(Et)_2$ ,  $-(CH_2)_4-N(Et)_2$ ,  $-CH(Me)(CH_2)_4-CH_3$ ,  $-CH(Me)(CH_2)_3-N(Et)_2$ , ~~N-piperidinyl,~~ and  $-(CH_2)_2-(4-(SO_2NH_2)phenyl)$ , ~~2,6-~~



dimethylpiperidinyl,



9. (Original) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is hydrogen;

R<sup>1</sup> is in the 7-position and is -CH<sub>2</sub>-CO<sub>2</sub>-t-Bu, allyl or benzyl;

R<sup>2</sup> are each hydrogen;

X<sup>1</sup> is hydrogen; and

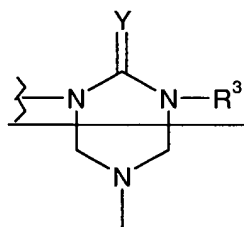
R<sup>3</sup> is ethyl.

10. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

R<sup>1</sup> is in the 7-position and is hydrogen, -CH(CH<sub>3</sub>)(CN) or -CH(CN)(CH<sub>2</sub>-phenyl); and

R<sup>2</sup> is hydrogen; and



Q is taken together with X<sup>1</sup> and to form

, where Y is O and R<sup>3</sup> is ethyl.

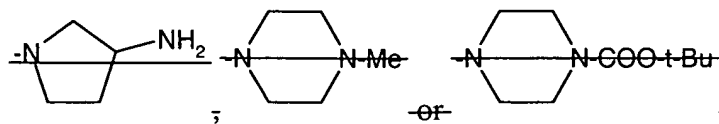
11. (Currently Amended) A compound according to claim 2, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is NO<sub>2</sub>;

Q is H;

R<sup>1</sup> and R<sup>2</sup> are each hydrogen; and

~~R<sup>3</sup> and X<sup>1</sup> are taken together with the nitrogen atom to which they are attached to form~~



12. (Currently Amended) A compound according to claim 3, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

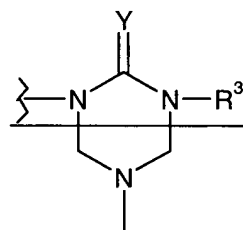
W is NO<sub>2</sub>;

R<sup>1</sup> is hydrogen or is in the 7-position and is -CH<sub>2</sub>-CN, -CH<sub>2</sub>-CONH<sub>2</sub> and -CH<sub>2</sub>-COO-t-Bu;

R<sup>2</sup> is hydrogen;

X<sup>1</sup> is hydrogen or -CH<sub>2</sub>-O-CH<sub>3</sub>;

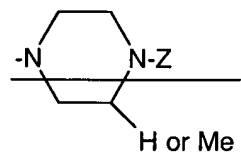
R<sup>3</sup> is methyl, ethyl, n-BuOH, -CH<sub>2</sub>CF<sub>3</sub>, ~~morpholine~~, -(CH<sub>2</sub>)<sub>7</sub>-N(Me)<sub>2</sub>, 2-phenyl-phenyl, n-BuOH, -CH<sub>2</sub>CF<sub>3</sub>, ~~morpholine~~, -(CH<sub>2</sub>)<sub>4</sub>-N(Me)<sub>2</sub>, -(CH<sub>2</sub>)<sub>2</sub>-N(Me)<sub>2</sub>, -(CH<sub>2</sub>)<sub>3</sub>-NHMe, benzyl or -CH<sub>2</sub>-O-CH<sub>3</sub>.



~~or Q is hydrogen or is taken together with X<sup>1</sup> to form ethyl;~~

, where Y is O and R<sup>3</sup> is

~~or R<sup>3</sup> and X<sup>1</sup> are taken together with the nitrogen atom to which they are attached to form~~



~~H or Me, where Z is methyl, 4-fluorophenyl, 2-pyridyl, 2-methoxyphenyl, -CH<sub>2</sub>-CH=CH-phenyl or 2,4-dimethoxyphenyl.~~

13. (Currently Amended) A compound according to claim 1, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is Cl or Br;

Q is H;

R<sup>3</sup> is an optionally substituted moiety selected from the group consisting of alkyl, alkenyl, phenyl, phenylalkyl, ~~heterocyclyl, heterocyclyl-alkyl~~ or aminoalkyl.

14. (Curently Amended) A compound according to claim 13, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>3</sup> is alkyl, haloalkyl, esteralkyl, N,N-dialkylaminoalkyl, alkenyl, phenyl, phenylalkyl, halophenyl, alkoxyphenyl, aryloxyphenyl, ~~thienyl-alkyl, halopyridyl, heterocyclyl, heterocyclyl-alkyl~~ or aminoalkyl.

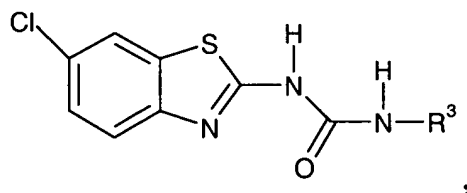
15. (Currently Amended) A compound according to claim 14, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

W is Cl;

R<sup>3</sup> is ethyl, propyl, butyl, t-butyl, 2,4,6-trichlorophenyl, 2,4-dimethoxyphenyl, ~~-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl,~~ allyl, 2-bromoethyl, 2-phenoxyphenyl, ~~2,6-dichloropyrid-4-yl~~, benzyl, ~~-(CH<sub>2</sub>)<sub>2</sub>-COOEt, -(CH<sub>2</sub>)<sub>3</sub>-N(Et)<sub>2</sub>, -(CH<sub>2</sub>)<sub>4</sub>-N(Et)<sub>2</sub>, or -(CH<sub>2</sub>)<sub>2</sub>-N(Me)<sub>2</sub>.~~

16. (Currently Amended) A compound according to claim 15, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein R<sup>3</sup> is ~~-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl,~~ allyl, 2-bromoethyl, 2-phenoxyphenyl, ~~2,6-dichloropyrid-4-yl~~, benzyl, ~~-(CH<sub>2</sub>)<sub>2</sub>-COOEt, -(CH<sub>2</sub>)<sub>3</sub>-N(Et)<sub>2</sub>, -(CH<sub>2</sub>)<sub>4</sub>-N(Et)<sub>2</sub>, or -(CH<sub>2</sub>)<sub>2</sub>-N(Me)<sub>2</sub>.~~

17. (Original) A compound of the formula



racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>3</sup> is ethyl, propyl, t-butyl, 2,4,6-trichlorophenyl or 2,4-dimethoxyphenyl.

18. (Original) A compound according to claim 14, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>1</sup> is hydroxy, nitro, or an optionally substituted moiety selected from the group consisting of alkyl, alkoxy, arylalkyloxy and sulfonato;

R<sup>2</sup> is halo or nitro; and

R<sup>3</sup> is alkyl or phenylalkyl.

19. (Original) A compound according to claim 18, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein

R<sup>1</sup> is hydroxy, nitro, methyl, methoxy, isopropoxy, benzyloxy, 4-fluorobenzyloxy, -O-C(CH<sub>3</sub>)<sub>2</sub>(C(O)NH<sub>2</sub>), -O-(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-OMe or -O-SO<sub>2</sub>-CF<sub>3</sub>;

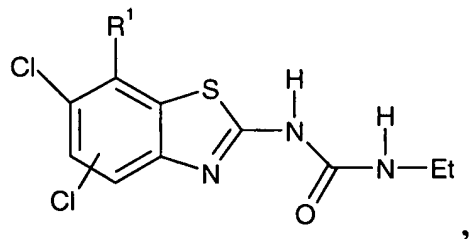
R<sup>2</sup> is Cl or nitro; and

R<sup>3</sup> is ethyl or benzyl.

20. (Original) A compound according to claim 19, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein X<sup>1</sup> is H.

21. (Original) A compound according to claim 20, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein W is Cl; R<sup>1</sup> is in the 7-position; and R<sup>2</sup> is in the 4- or 5-position.

22. (Original) A compound of the formula



racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes, wherein R<sup>1</sup> is methyl, methoxy or isopropoxy.

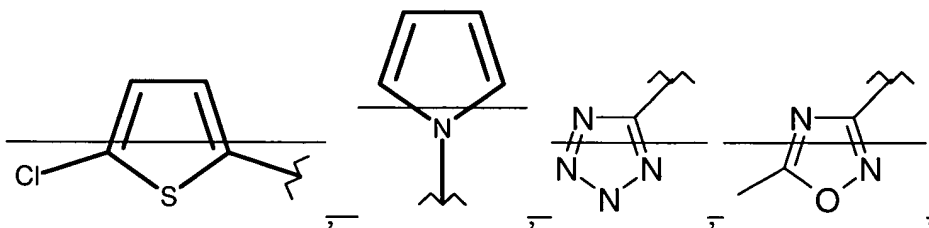
23-37 (Cancelled)

38. (Original) A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable diluent or carrier.

39. (Original) A pharmaceutical composition for inhibiting a protein kinase, which composition comprises a pharmaceutically acceptable carrier or diluent and an effective amount of a compound of formula (IB) as defined hereinabove, racemic-diastereomeric mixtures thereof, optical isomers thereof, prodrugs thereof, isotopes thereof or pharmaceutically-acceptable salts of said compound, isomers, prodrugs and isotopes.

40. (Currently Amended) A compound according to claim 1, wherein W is  $-(CH_2)_2-NH-C(O)-NH-(C(R^{10})_2)_a-Z^1_q$  or an optionally substituted heterocyclyl;  $R_1$  and  $R_2$  are each H; Q is H; Y is O;  $X^1$  is H; and  $R_3$  is an optionally substituted alkyl.

41. (Currently Amended) A compound according to claim 40 wherein W is:



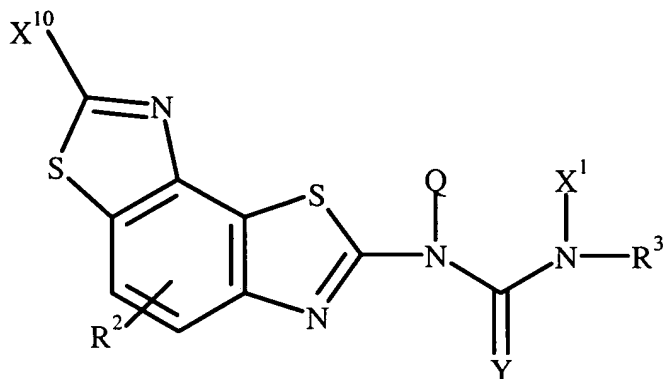
$-(CH_2)_2-NH-C(O)-NH-Et$ ,  $-CH_2-NH-C(O)-NH-ethyl$ ,  $-CH_2-NH_2$ ,  $-NH-phenyl$ ,  $-C(O)-NH_2$ ,  $-CH_2-NH-S(O)_2-Ph$ ,  $-C(O)-NH-phenyl$ ,  $-CH_2-NH-S(O)_2-CF_3$ ,  $-CH_2-CN$ ,  ~~$-CH_2-NH-CH_2-5-methyl-furan-2-yl$~~ ,  ~~$C(O)-NH-(CH_2)_3-(4-methylpiperazin-1-yl)$~~ ,  $-(CH_2)_2-NH-C(O)-NH-(phenyl)$ , or  $-(CH_2)_2-NH-C(O)-NH-(p-toluy)$ .

42. (Original) A compound according to claim 41, wherein  $R^3$  is ethyl.

43. (Original) A compound according to claim 1, wherein W is CN;  $R^1$  and  $R^2$  are each H; Q is H; Y is O; and  $X^1$  is H; ~~and  $R_3$  is an optionally substituted heterocyclyl heterocyclyl, or heterocyclyl-cycloalkyl.~~

44. (Cancelled)

45. (Original) A compound according to claim 1, wherein  $R^1$  and W are taken together to form

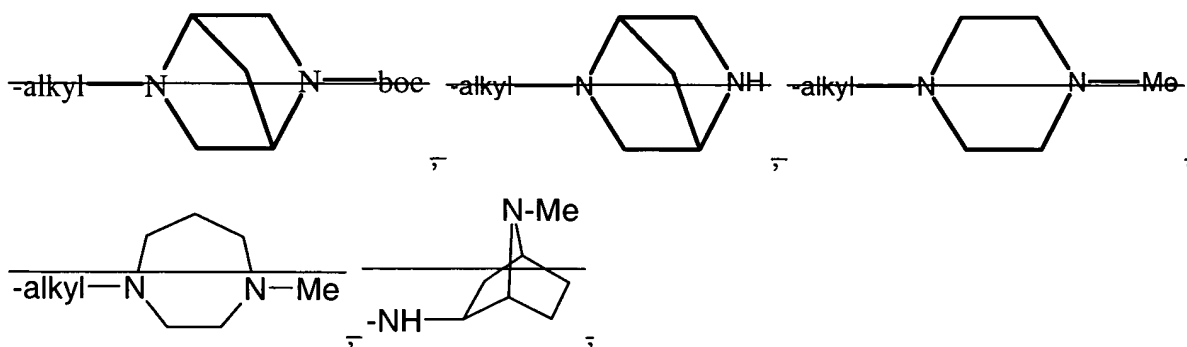


where  $X^{10}$  is independently selected from the same group of substituents as  $X^3$ .

46. (Original) A compound according to claim 45, wherein  $R^2$  is H; Q is H; Y is O;  $X^1$  is H;  $R^3$  is alkyl; and  $X^{10}$  is ethyl, 3-pyridyl, N-(p-Br-phenyl)-NH-, 1-piperidyl or  $CH_3$ -NH-.

47. (Original) A compound according to claim 1, wherein W is H; and  $R^1$  is  $-S-X^3$ ,  $-S(O)X^3$  or  $-S(O)_2X^3$ .

48. (Currently Amended) A compound according to claim 1, wherein W is Br, Cl or p-fluorophenoxy,  $R^1$  and  $R^2$  are each H; Q is H; Y is O;  $X^1$  is H; and  $R^3$  is alkyl-chloro,



~~-alkyl piperazin-1-yl, alkyl (2,5-dimethylpiperazin-1-yl), alkyl (3,5-dimethylpiperazin-1-yl), alkyl (3-aminocarbonylpiperidin-1-yl), alkyl (4-hydroxypiperidin-1-yl), alkyl (3-hydroxypiperidin-1-yl), -alkyl-COOEt, -alkyl-COOH, alkyl (4-methylpiperazin-1-yl), alkyl (N-morpholinoethylamino), alkyl (N-piperidinylethylamino), alkyl (N,N-diethylaminoethyl)-N-(methylamino), alkyl ((1-ethylpyrrolidin-2-yl)-methylamino), alkyl (N-(1-methylpiperidin-4-yl)-N-(methylamino), alkylamino, alkyl-piperidin-1-yl or alkyl-(N,N-diethylaminoethylamino).~~

49. (Original) A compound according to claim 48, wherein the alkyl group is methylene, ethylene or propylene.

50. (Original) A compound according to claim 1, wherein  $R^2$  is H; Q is H; Y is O;  $X^1$  is H and  $R^3$  is ethyl.

51. (Currently Amended) A compound according to claim 50, wherein W is H or Br; and  $R^1$  is in the 7-position of the benzothiazolyl ring and is  $-C\equiv CH$ ,  $-C\equiv C$  (2-pyridinyl),  $-C\equiv C-CH_2-N(CH_3)_2$ ,  $-O-CH(CH_3)_2$ , phenyl or  $-CH=CH_2$ .

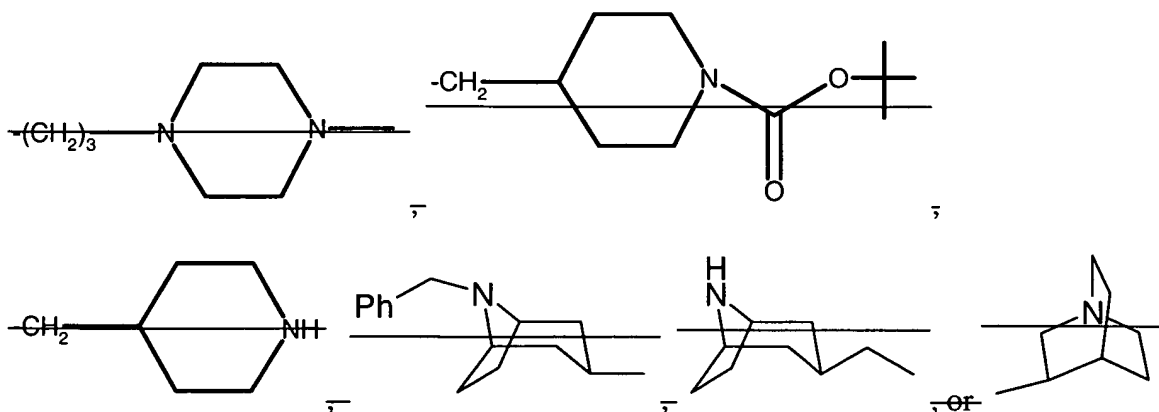
52. (Original) A compound according to claim 50, wherein  $R^1$  is  $-CH=CH_2$  and W is  $-CH=CH_2$ .

53. (Currently Amended) A compound according to claim 50, wherein  $R^1$  is H and W is benzyl; or p-fluorophenoxy or ~~pyridin-4-ylmethyl~~.

54. (Original) A compound according to claim 50, wherein W is F;  $R^1$  is in the 7-position of the benzothiazolyl ring and is H or Cl; and  $R^2$  is in the 5-position of the benzothiazolyl ring and is H or Cl.

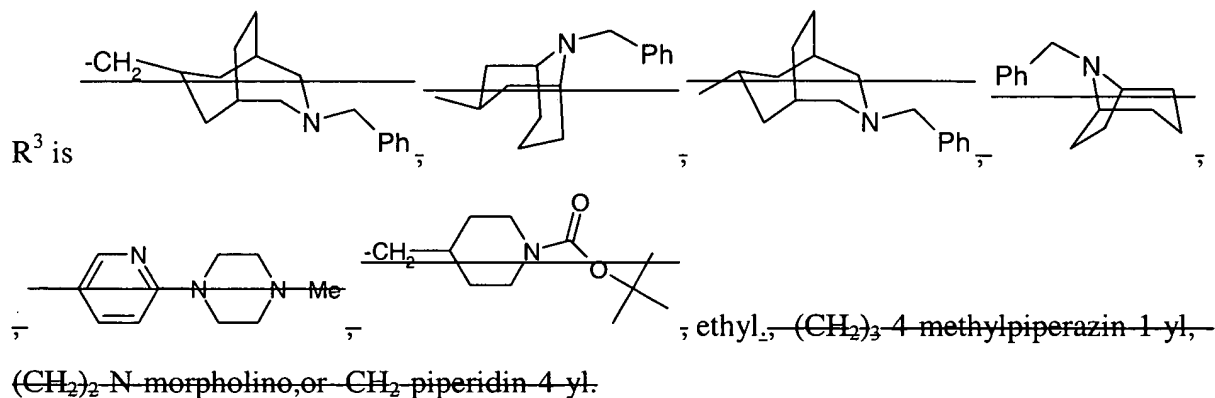
55. (Currently Amended) A compound according to claim 50, wherein  $R^1$  is H and W is  $-CH\equiv CH$ ,  $-C\equiv C-Ph$ ,  $-C\equiv C-CH_2-N(CH_3)_2$ ,  $-C\equiv C$ -(4-fluorophenyl),  $-C\equiv C$ -(p-toluy),  $-(CH_2)_2-Ph$ ,  $-(CH_2)_2$ -(4-fluorophenyl),  $-CH=CH$ -phenyl,  $-CH=CH-CH_2-N(CH_3)_2$ ,  $-CH=CH$ -(4-fluorophenyl); or  $-CH=CH$ -(p-toluy); or  ~~$-CH=CH$ -(1-imidazolyl)~~.

56. (Currently Amended) A compound according to claim 1, wherein W is p-fluorophenoxy; or  $-(CH_2)_3-NHMe$  or  ~~$-(CH_2)_2$ -1-piperazinyl~~; and  $R^3$  is  $-CH_2-C(Me)_2-CH_2-N(CH_3)_2$ ;  ~~$-(CH_2)_2$ -(5-imidazolyl)~~;

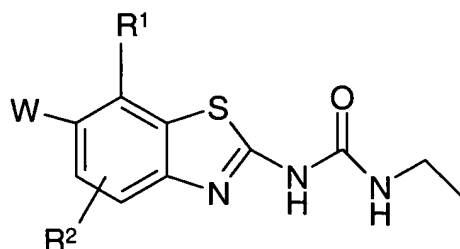


57. (Currently Amended) A compound according to claim 1, wherein  $R^1$  is in the 7-position of the benzothiazolyl ring and is H or CN;  $R^2$  is H; Y is O; Q and  $X^1$  are each H;

W is Cl, NO<sub>2</sub>, -CH<sub>2</sub>-OH, -CH<sub>2</sub>-O-C(O)-NH-Et, -S-phenyl, -O-phenyl, -S-CH<sub>3</sub>, -C(O)-phenyl, -S(O)-phenyl, -S-*p*-nitrophenyl, -S-*p*-methylphenyl, -S-*p*-chlorophenyl, -S-*p*-methoxyphenyl, -S-*m*-CF<sub>3</sub>-phenyl, -S-*o*-chlorophenyl, -C(O)-CH<sub>3</sub>, ~~NH-C(O)-NH-(CH<sub>2</sub>)<sub>2</sub>-2-thienyl, NH-C(O)-NH-3-pyridyl, S(O)<sub>2</sub>-*p*-(carboxymethylamino)-phenyl, N-morpholino, NH-C(O)-NH-Et, NH-C(O)-NH-CH<sub>2</sub>-phenyl, -S-*p*-chlorophenyl, -S-*p*-bromophenyl, -S-*m*-CF<sub>3</sub>-phenyl, or -S-*p*-fluorophenyl;~~



58. (Currently Amended) A compound of the formula



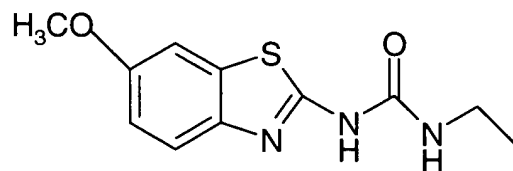
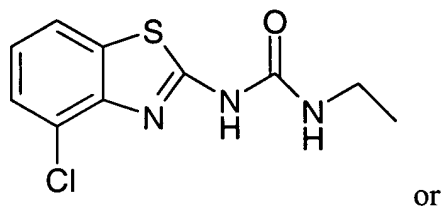
wherein W is H, -OCF<sub>3</sub>, -O-Et, F, CH<sub>3</sub>, -OCH<sub>3</sub>, -SO<sub>2</sub>-Me, NH<sub>2</sub>, -NH-C(O)-Me, -NH-CH<sub>2</sub>-phenyl, ~~NH-S(O)<sub>2</sub>-2-thienyl, NH-S(O)<sub>2</sub>-(3,5-dimethylisoxazol-4-yl), -NH-S(O)<sub>2</sub>-Me, -NH-S(O)<sub>2</sub>-CH<sub>2</sub>-phenyl, -NH-C(O)-O-CH<sub>2</sub>-CCl<sub>3</sub>, -NH-C(O)-O-CH<sub>2</sub>-Ph, -NH-C(O)-O-Me or NO<sub>2</sub>;~~

R<sup>1</sup> is H, F or -CH<sub>2</sub>-S(O)<sub>2</sub>-phenyl; and

R<sup>2</sup> is H, 4-Cl, 4-methyl, 5-methyl, 5-Cl, 5-F or 5-OCH<sub>3</sub>

provided that the compound is not





59-60 (Cancelled)